

## Taxonomic Status of *Cornufer worcesteri* Stejneger

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Stejneger (1905) described a frog from Mt. Apo, Mindanao Island, Philippines as a ranid, *Cornufer* (= *Platymantis*) *worcesteri*, based on a unique, poorly preserved specimen as he noted. He compared *C. worcesteri* with *C. jagori* (= *dorsalis*) from the Philippines and with *C. dorsalis* from Fiji (= *vitiensis*). He did not compare *C. worcesteri* with *C. guentheri*, the only large-disked species known from the Philippines at that time. Taylor (1920, 1921) continued to treat *C. worcesteri* as a distinct species, but Inger (1954) placed it in the synonymy of *Cornufer* (= *Platymantis*) *guentheri*.

Recently, while revising the Philippine species of the *guentheri* group of *Platymantis*, one of us (W. C. Brown) reexamined the type of *Cornufer worcesteri*. The presence of an intercalary cartilage and a notched terminal phalanx (based on x-ray of hand) places it in the genus *Philautus*, Rhacophoridae, (Dring, 1987; Brown and Alcala, 1994).

Five species-groups of *Philautus* were diagnosed by Dring (1987). Two (*P. hosei* and *P. tectus* groups) were limited to Borneo, one (*P. vermiculatus* group) was recorded from Borneo and Malaya, one (*P. aurifasciatus* group) was shared by Borneo and the Philippines, and one (*P. surdus* group) was limited to the Philippines. In their revision of the Philippine Rhacophoridae, Brown and Alcala (1994) reported five species of *Philautus* as occurring on Mindanao Island: *P. acutirostris* (*P. aurifasciatus* group), *P. poecillus* (*vermiculatus* group), and *P. emembranatus*, *P. surrufus*, and *P. surdus*, (*P. surdus* group). Only one of these species, *Philautus acutirostris* was recorded from Mt. Apo, Mindanao. *Philautus worcesteri* adds a second species.

Comparison of the type of *Philautus worcesteri* with the types of *P. emembranatus* and *P. surrufus* and a series of *P. surdus* from Mindanao that earlier was compared with the type of *P. surdus* (Brown and Alcala, 1994), shows it to be in close agreement with *Philautus emembranatus* in terms of: (1) color pattern, (2) ornamentation of the dorsum, (3) webbing of the toes and such proportions as can be reasonably accurate for the poorly preserved type of *P. worcesteri*, (4) the smaller eye relative to head breadth, (5) the smaller tympanum relative to eye, and (6) the smaller third finger disk relative to third finger length. Hence, we recognize *P. worcesteri* as a senior synonym of *P. emembranatus*. A recent (1994) collection of two more specimens from Mt. Apo, clearly assignable to *P. emembranatus* adds further support (Table 1). The primary differences between the Mt. Apo series and the series of *P. emembranatus* from other mountains of Mindanao are: (1) one of the two females from Mt. Apo is about 2 mm less in SVL than the smallest female in the *P.*

TABLE 1. Snout-vent length and pertinent body proportions for species of the *surdus* Group of *Philautus* (N = number in sample). \* The specimens are recorded as *Philautus emembranatus* (Brown and Alcalá, 1994).

Species	Adult SVL		ED	TD	3FD	ED	SnL	
	M	F	HB	ED	3FL	SnL	HB	
<i>P. worcesteri</i> (holotype)	27.2 (sex unknown)		0.28	0.32	—	0.84	0.33	
<i>P. worcesteri</i> (Mt. Apo)	N =	26.5–31.0 2	0.28–0.30 3	0.31–0.33 3	0.29–0.38 2	0.70–0.85 3	0.33–0.41 3	
<i>P. worcesteri</i> (Mts. other than Apo)*	N =	25.1–32.4 7	29.0–43.9 9	0.25–0.31 15	0.18–0.34 15	0.22–0.36 15	0.80–0.97 15	0.30–0.35 15
<i>P. surdus</i>	N =	22.5–31.0 25	28.5–38.4 20	0.30–0.37 25	0.33–0.49 25	0.36–0.45 25	0.86–1.03 25	0.30–0.40 25
<i>P. surrufus</i>	N =	20.0–27.6 16	26.6–35.4 12	0.31–0.39 20	0.34–0.50 20	0.34–0.44 20	0.92–1.10 20	0.32–0.39 20

*emembranatus* series from other mountains and (2) one of the Mt. Apo specimens has a longer snout relative to HB or ED (Table 1).

Because *Philautus worcesteri* (Stejneger, 1905) has priority over *P. emembranatus* (Inger, 1954), we rediagnose and redescribe *Philautus worcesteri*, using a supplemental series of adults from other mountain areas of Mindanao, including the type of *P. emembranatus*.

Morphometric characters: snout-vent length (SVL), snout length (SnL), diameter of eye (ED), diameter of tympanum (TD), tibia length (TiL), diameter of third finger disk (3FD), third finger length from proximal edge of basal tubercle (3FL), and diameter of third toe disk (3ToD) were measured to the nearest 0.1 mm using a Helios dial caliper. Other nonmetric, morphological characters include: webbing of fingers and toes, skin ornamentation, shape of snout, color pattern, vomerine teeth, tubercles of hands and feet, and shape of terminal phalanges.

*Philautus worcesteri* (Stejneger)

*Cornufer worcesteri* Stejneger, 1905:345 (type locality: Mount Apo, Davao del Norte Prov., Mindanao Island, Philippines; holotype, USNM 34784); Taylor, 1920:111, 1921:108.

*Cornufer guentheri*: (part) Inger 1954:362.

*Rhacophorus emembranatus* Inger, 1954:392 (type locality: Mount McKinley, Davao Prov., Mindanao Island, Philippines; holotype, FMNH 50684; Rabor and Alcalá, 1959:341; Brown and Alcalá, 1970:109).

*Philautus emembranatus*: Liem 1970:93; Dring 1987:20; Brown and Alcalá 1994:197.

*Philautus worcesteri* differs from other species of the *P. surdus* Group of *Philautus* in the following combination of characters: (1) dorsum nearly smooth, with few or no tubercles; (2) dorsal color pattern (in preservative) golden brown to grayish, relatively uniform or with a few, small dark blotches; (3) the smaller eye, ED/HB rarely as great as 30%; (4) the smaller tympanum, TD/ED, rarely as great as 33%; (5) smaller finger disks relative to finger length, 3FD/3FL rarely greater than 35% (Table 1).

The holotype is poorly preserved, but the following measurements (mm) are probably least affected: SVL

27.2, HL 10.5, HW 11.3, SnL 3.7, ED 3.1, TD 1.0; color badly faded; webbing of toes reaches midway between tubercle and disk on second, third and fifth toes.

*Description*.—SVL 25.1–32.4 mm for seven males and 26.5–43.9 mm for 11 females; HB 103–122% of HL and 37–46% of SVL; snout round-pointed or ending in a knob-like protrusion, most prominent for females; SnL 34–44% of HL and 30–41% of HB; eye moderate; ED 70–97% of SnL and 25–31% of HB; tympanum covered by skin, TD 18–34% of ED; nostril much closer to tip of snout than eye; males with vocal sacs; vomerine teeth in small, low, widely separated patches or sometimes absent; canthus rounded; lores moderately oblique; slightly concave; fingers without or with minute webs at base; fingers with moderately large, nearly round disks; disks completely circumvented by a groove; 3FD 22–38% of 3FL and 129–244% of TD; subarticular tubercles large, low, rounded; no supernumerary tubercles but palm wrinkled; inner metatarsal tubercle elongate, outer small or indistinct; outer edge of lower arm smooth or nearly so; nuptial pad, large, smooth, elongate; hindlimbs long, TL 50–64% of SVL; toes webbed: to approximately distal edge of tubercle or beyond on first and second toes, distal edge of distal tubercle on third and fifth, and distal edge of basal disks of toes smaller than those of fingers, 3ToD 65–86% of 3FD; subarticular tubercles low, rounded; inner metatarsal tubercle elongate; outer metatarsal tubercle low, rounded or indistinct; dorsum smooth or nearly so; venter and posterior thighs with large, flattish granules.

*Color*.—In preservative, dorsum and upper lateral surfaces gray to dusky tan or golden brown, nearly uniform or occasionally with vague, darker blotches; venter creamy white, uniform except for dark flecks along edge of lower jaw and, for some individuals, a few on posterior abdomen and under-surface of thighs; limbs without distinct transverse bands.

In life, dorsal ground color tannish brown, slate-gray, or dark brown, usually relatively uniform or with a few scattered, darker markings.

For data on reproduction, habitat, and comparisons, see *Philautus emembranatus* in Brown and Alcalá (1994).

*Range*.—Recorded from mountain ranges in Agu-

san del Norte, Davao, Davao del Norte, Misamis Occidental, and Zamboanga del Norte Provinces, Mindanao Island, Philippines.

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